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# INTERNET MARKETING TECHNOLOGIES IN CIVIL ENGINEERING

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## ABSTRACT

*The main issues of application of Internet marketing technology in the field of civil engineering are considered. The main directions of modern use of Internet technologies and Internet marketing in the sphere of civil engineering are analyzed. In the form of separate schemes, the forms of marketing combinations are formalized as a result of a combination of classic and modern Internet marketing technologies. The relationship between marketing and Internet marketing in implementing the strategies of managing companies in the field of civil engineering is generalized.*

**Key words:** Internet, Marketing, Civil Engineering, Stimulating Marketing, Developing Marketing, Conversion Marketing.

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## 1. INTRODUCTION

Modern civil engineering plays an important role in the development of infrastructure, the establishment and maintenance of close interrelations between various economic entities, and the provision of integral economic development [1, 2]. It is important to maintain a sustainable and stable development of all components in the spheres of influence of civil engineering subjects, to ensure continuity and efficiency of its operation. This, in turn, makes it necessary

to apply various methods in the management of subjects and objects of civil engineering in their continuous relationship [3-7].

Among the various methods and technologies that are appropriate and necessary to use in modern civil engineering, it is necessary to highlight the Internet marketing technologies. This is due to the fact that Internet marketing technologies provide both the ability to quickly respond to changes in the procurement of necessary materials for civil engineering, as well as the possibility of timely attracting potential investors and customers to civil engineering projects.

Thus, the consideration of various issues related to the application of Internet marketing technologies in civil engineering can be considered an important and promising task that requires a comprehensive review.

## **2. MATERIALS AND METHODS**

### **2.1. Related work**

The authors of the study "Modern business strategy Customer Relationship Management in the area of civil engineering" consider a whole range of issues, which is devoted primarily to the management of customer relationships in the field of civil engineering [2]. Achieving a close relationship with customers is the main tool for gaining competitive advantages. At the same time, a special place in the system of such relationships is given to Internet marketing. In the next article, the authors concretize the use of Internet marketing in civil engineering, linking such a management tool with a business development strategy for improving the competitiveness of companies in the civil engineering sector [8].

In the article [9] special attention is paid to the success or failure of project management systems in civil engineering on the basis of modern information technologies, where Internet marketing is also considered.

C. J. Anumba and K. Ruikar examine the problematic issues of doing business in the field of civil engineering electronically via the Internet [10]. In particular, the authors consider various business models of e-commerce, the opportunities and obstacles of their use in the field of civil engineering.

The article [11] focuses on the effective deployment of construction projects, their dependence on effective communication between project participants. The issues of information management on construction and communication between project participants are also explored. Particular attention is paid to information modeling - the representation of the construction process in the data, to facilitate the exchange and interaction of information.

The study [12] considers the experience of using Internet marketing on the example of construction companies in Nigeria. This study examines the type of team in the construction industry from the point of view of a virtual team using the design of mixed method studies.

In the article [13] problematic aspects of operating Big Data in civil engineering, which are an integral part of Internet marketing technology, are studied. This is due to the fact that data management in civil construction has acquired great importance, since the extraction of significant value from a huge variety of raw data is of paramount importance in making managerial decisions.

### **2.2. Internet marketing as an element of modern information technologies**

Internet marketing is one of the components of modern information technology, which uses the methods of classical marketing to conduct marketing activities on the Internet [14, 15]. Classical marketing is considered as a system of knowledge directed at controlling the consumer demand from the position of the manufacturer of goods and service provider.

The work of the classical marketer is usually put into the scheme: to plan a marketing campaign, to organize and conduct a campaign, to analyze the consequences of the campaign. At the same time, a marketer is often limited by the impact on the campaign itself, and the effectiveness of the campaign is sometimes difficult to determine. Very often, instead of an objective assessment, the subjective satisfaction or discontent of the customer of the campaign is applied.

Internet marketing is rapidly developing as a practical activity and as a theory. Internet marketing uses the methods of traditional (classical) marketing and develops its own methods based on the capabilities and specifics of information technologies that are used on the Internet.

Unlike classic marketing, an internet marketer has the ability to promptly influence the campaign and have operational data on its effectiveness, which can be obtained even in real time.

Traditional marketing is aimed at analyzing the state of the market; marketing functions determine the goals and needs of consumers, improve the quality of goods and services, increase consumer demand.

In its turn, Internet marketing is aimed at finding the target audience. With the use of the Internet marketing tools occurs the promotion of new products in the market, the use of different types of advertising affect the target audience and increase the purchasing power.

Modern Internet technologies allow tracking the number of conversions (visits to the site) made from each posted informational and promotional message. So, you can collect statistics about how many users came from a specific information platform, how long they were on the target site, what they performed on the site, the geography of visitors, what keywords visitors find a site with in search engines, and so on. All these data can be used to assess the effectiveness of management decisions in the field of civil engineering. At the same time, the latest advances in information technology have considerably expanded the possibilities of storing and processing information. This allows to combine large volumes of information from several sources and to have the most comprehensive information relevant to a particular subject area.

Thus, Internet marketing is a powerful tool that allows not only to promote the services of companies in the market, but also to form the appropriate management decisions that contribute to the functioning and development.

### **3. RESULTS AND DISCUSSION**

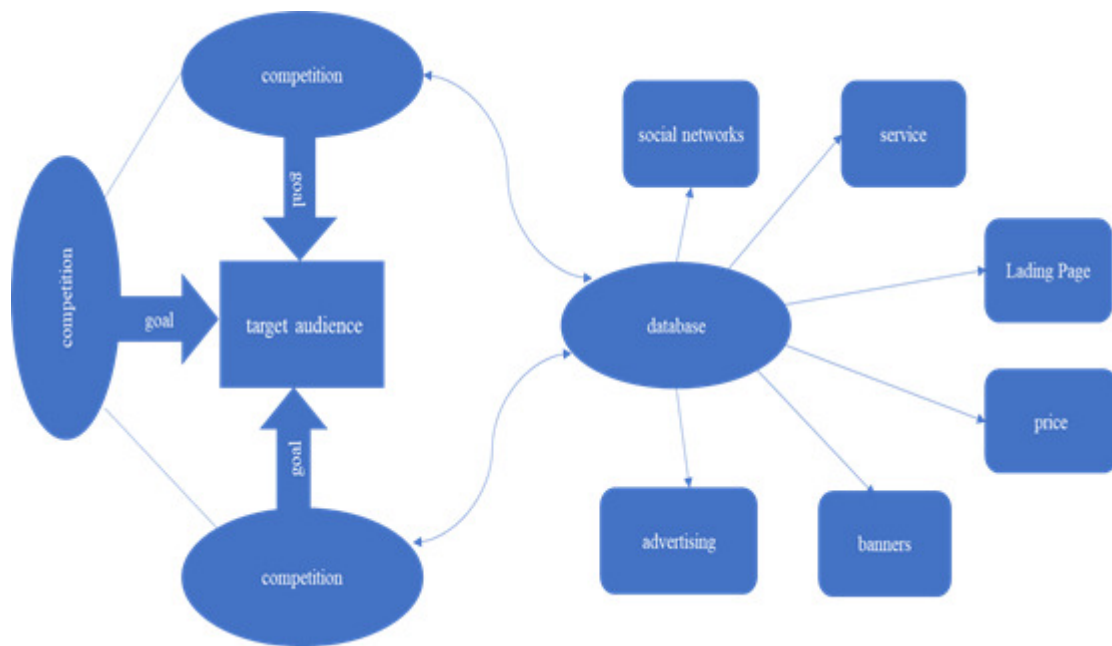
#### **3.1. Marketing combination as the result of a combination of classic and modern technologies of Internet marketing**

Traditional marketing deals with the supply of products and services to end consumers, is developing the motivation for their sale. This is due to the fact that consumer behavior, goals and processes of making certain decisions have their own social characteristics that are very different from those associated with the psychology of the end consumer markets. The marketing concept applies in full and all.

One of the disadvantages of classic marketing is that the quantity of buyers and suppliers decreases, their number is close to each other. The solution to this problem is quite simple – to make marketing more simple process to management. It is necessary to make a more detailed analysis of the idea of market segmentation and positioning. Indeed, some things are more complex, since marketing involves consumers who need to function in groups, regardless of whether they are formalized or not. Marketing as coordinating activities is very important. Management must understand that a marketing idea, this is not a functional activity, but a way of business life. Nowadays, not everything is possible to understand that's why companies have

not yet fully implemented modern marketing ideas. Then there appears modern approaches to introducing the Internet marketing, among such approaches we have to mention lending, targeting, methods of multiple criteria decision analysis, search engine optimization, etc. [13]. This induces the definition of the various entity classifications of Internet marketing – both classical and modern methods and approaches to the introduction of advanced concepts of information management.

The combination of two classifications: classical marketing and modern marketing leads to the expansion of marketing combinations, where one should highlight - stimulating marketing (Figure 1), developing marketing (Figure 2) and conversion marketing (Figure 3). The peculiarity of introducing such online marketing schemes is due to the fact that they include tools aimed at satisfying the needs of the consumer, while product promotion contains additional tools aimed at supporting them on a temporary basis.

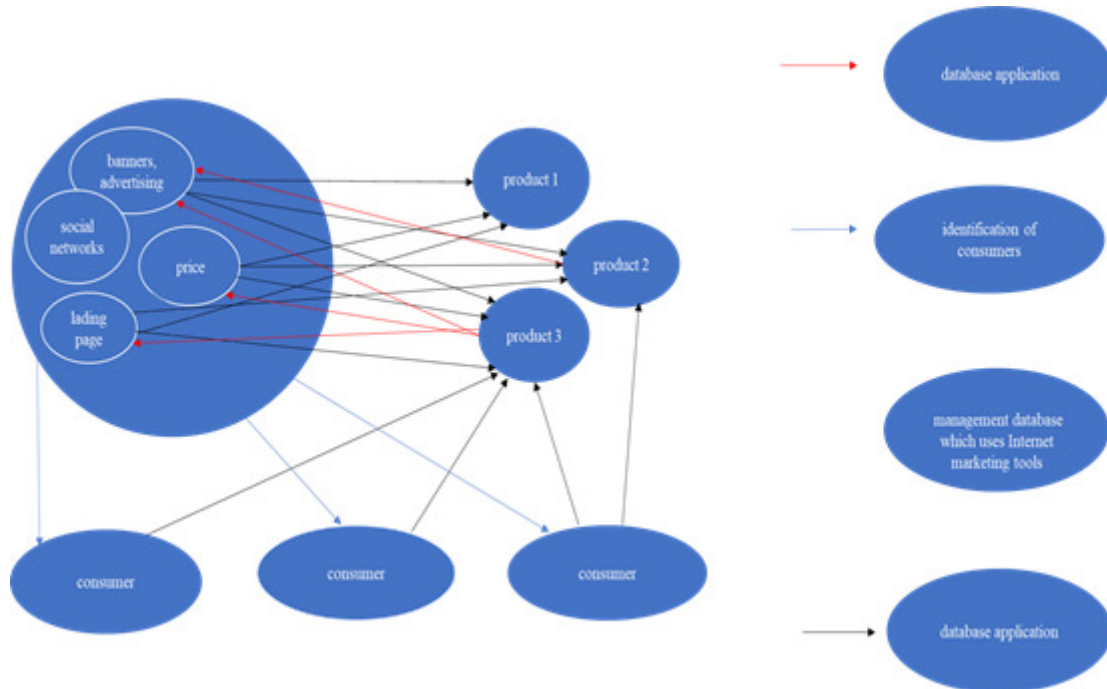


**Figure 1** Stimulating marketing



**Figure 2** Developing marketing

A key element of the proposed online marketing systems is that instead of positioning different classic marketing approaches, a new database has been proposed that claims that any or all of the proposed elements may be relevant and applied in practice at a specific time. Each of these elements can be differentiated according to certain requirements of the consumer and is more elaborated on a conceptual basis.



**Figure 3** Conversion marketing

The objective of the stimulating marketing scheme is to find the best option to achieve the goals, to determine the way to get the maximum income, to meet all the needs of customers, taking into account their interests and opportunities, while the cost of using resources should be minimized. Therefore, from the point of view of civil engineering, it helps to encourage both potential investors and potential buyers to specific construction projects.

Stimulating marketing is used in the absence of demand for a particular product. Using social networks determines the target audience (age category) and its needs. The main elements of this are lower prices, better service, the use of advertising, banner leads to restoration of the interest of the audience to this product.

Conversion marketing is used when a consumer experiences a negative attitude to any product. To solve this problem, use of economic and mathematical modeling, which allows you to develop a plan for promotional activities for the promotion of goods and obtain specific data that will lead to increased demand and reduce the tendency to develop a negative attitude of buyers to the product. From the standpoint of civil engineering, the use of the appropriate marketing mix allows faster sales of the finished construction projects.

To promote new products in the market developed a new scheme for developing marketing. The task is to realistically assess the market situation and increase consumer demand for new goods, determine the indicators of sales, how effective is the use and impact of Internet marketing tools on the sale of new products. From the standpoint of civil engineering, this type of Internet marketing contributes to the dissemination of positive information on new construction projects, and thus to encourage new investors, to attract potential buyers.

The economic activity of construction companies is aimed at satisfying the diverse needs of investors and customers. But to meet all the needs you need to have resources. Consequently,

the use of traditional marketing and internet marketing tools can be combined into a single system that will allow a quicker analysis and evaluation of the market situation, identify various causes that affect the choice of customers, and develop strategies for reducing production costs. Therefore, proven schemes of Internet marketing allow building different decision-making strategies in the field of civil engineering.

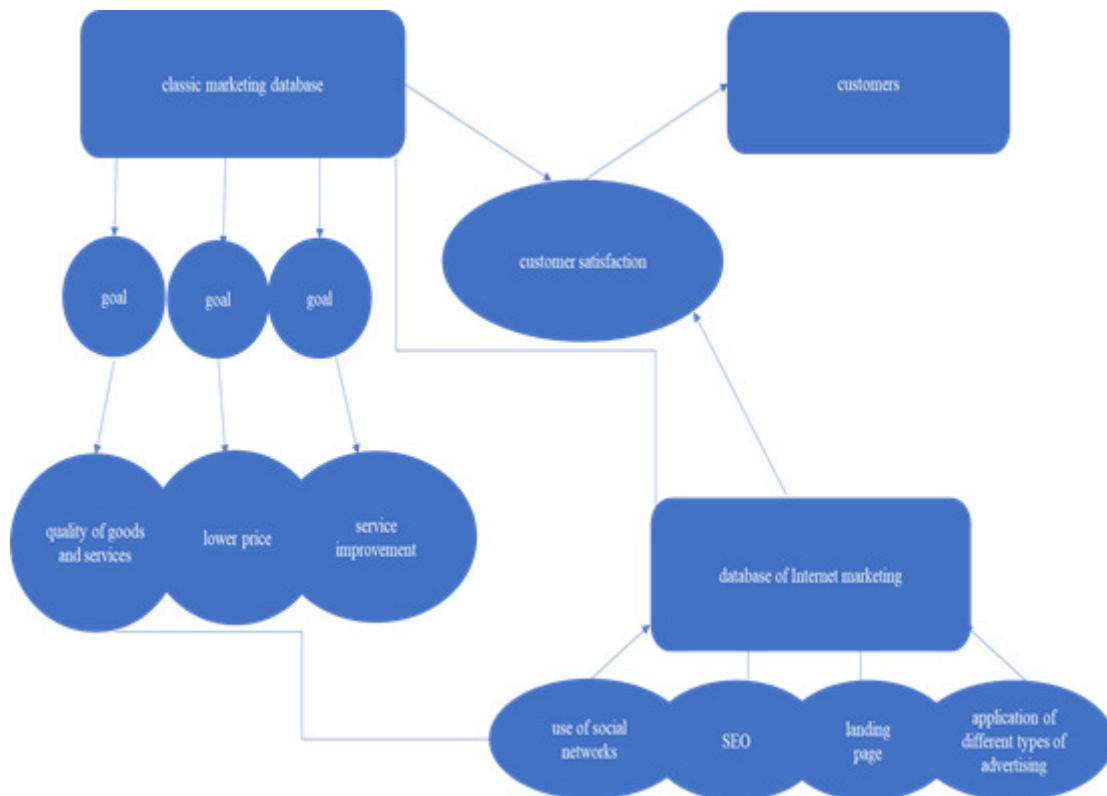
### 3.2. Relationship between marketing and internet marketing in the implementation of management strategies

One of the main tasks of marketing and Internet marketing is to determine the state of the market and to meet the needs of consumers.

The scheme at Figure 4 shows the relationship between traditional marketing and Internet marketing, but ultimately their main goal is to identify and meet the needs, to attract more consumers and turn them into potential customers, to increase demand, which leads to development

The aim of the development of a model of the relationship between marketing and Internet marketing is that in many companies there is a limited range of products and there is no real pricing.

The differences between online marketing and traditional marketing are that internet marketing is more reasonable, less expensive, faster, and involves more customers and it is a great way for companies that want to enter local and international markets.



**Figure 4** Relationship between marketing and Internet marketing

The scheme given at Figure 4 above all, shows the links between the elements of the relationship between marketing and Internet marketing:

- The relationship between the two indicators, namely the use of Internet tools and classical marketing.
- The effect of the intensity of Internet use, which is expressed in the use of Internet-based marketing tools.
- The effect of the intensity of the use of the Internet, which is expressed in the use of Internet items on the effectiveness of sales.
- The relationship between marketing activities, productivity and efficiency.

In this model, through certain elements of the database, the Internet is seen as a chance for companies to receive information and communicate with the consumer audience, to apply advertisements and distribute goods and services.

#### 4. CONCLUSION

Thus, the analysis of internet marketing technologies has been carried out and the possibility and necessity of its application in the field of civil engineering is substantiated.

Based on the analysis of Internet marketing as an integral part of modern information technology and comparing the relevant analysis to existing research in the field of Internet use in civil engineering, the conclusion was made about the importance of the main areas of the introduction of Internet marketing for the needs of civil engineering development.

The main tasks of the possible structure of marketing combinations are elaborated and identified, in particular: stimulating marketing, developing marketing and conversion marketing. It is indicated on the importance of such types of marketing combinations, taking into account the operation of companies in civil engineering.

The model of the relationship between marketing and internet marketing in the implementation of management strategies in the field of civil engineering is revealed. Priority aspects of the proven model are noted.

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